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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,383	08/27/2003	Paul W. McBurney	SS-734-17	7173

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EXAMINER	
HAROON, ADEEL	
ART UNIT	**PAPER NUMBER**
2685	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/650,383	MCBURNEY, PAUL W.	
	Examiner	Art Unit	
	Adeel Haroon	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-5 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-5 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Abraham (U.S. 2004/0142701).

With respect to claim 1, Abraham disclose a method for estimating a reference frequency drift in a navigation receiver associating a PDC handset, element number 104, subject to a standby mode with a navigation receiver, element number 106 (Paragraph 16, lines 1-4 and Paragraph 34). Abraham discloses sampling a VCO, element number 228, burst information, f and f_e, that is received by the PDC handset (Paragraph 16). Abraham also discloses running a NCO, element numbers 250 and 252, at a nominal frequency and periodically adjusting said NCO with samples obtained in the step of sampling (Paragraph 29). Abraham teaches correlating, using element

number 254, both in-phase and quadrature-phase outputs of the NCO (Paragraph 32). Abraham further teaches computing a navigation receiver reference frequency drift estimate (Paragraph 29 and 30).

With respect to claim 2, Abraham further discloses building a reference signal from data output by NCO and passing such as updates (Paragraph 29). The reference signal is interpreted as a reference sinewave since all signals are some derivative of a sinewave.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham (U.S. 2004/0142701) in view of Eberlein et al. (U.S. 6,973,121).

With respect to claim 3, Abraham discloses a circuit for estimating reference frequency drift in a navigation receiver comprising a NCO, element numbers 250 and 252, periodically receiving an NCO_value, f and f_e, on which an NCO output frequency depends (Paragraph 29). Abraham discloses a first and second mixer in the tuner,

element number 246, connected to an output of the NCO, reference signal, and combining it with a clock signal, and providing further an I-mix and Q-mix signal (Paragraph 29). Abraham also discloses and I and Q correlator, element number 254, for correlating the I and Q mix signals and outputting I and Q correlation outputs (Paragraph 32). Abraham further discloses having a drift estimate output comprising the I and Q correlation outputs (Paragraphs 29 and 30). Abraham does not expressly disclose the use of lookup tables for approximating the reference signals. However, Eberlein et al. discloses a receiver system that teaches the use of lookup tables, element number 62, for approximating a sine and cosine wave for the inphase and quadrature version of an NCO output frequency (Column 7, lines 50-56). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Eberlein et al.'s lookup table technique to the circuit of Abraham in order to not perform calculations each time.

With respect to claim 4, Abraham further discloses the NCO receiving data write from a firmware control program and connected to gate a clock signal to the tuner, first and second mixer thereby inherently having a NCO value holding latch (Paragraphs 29 and 30).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Abraham (U.S. 2004/0142701) and Eberlein et al. (U.S. 6,973,121) further in view of Abraham et al. (U.S. 6,819,707).

With respect to claim 5, the modified circuit of Abraham and Eberlein et al. is described above in the discussion of claim 3. Neither Abraham nor Eberlein et al. disclose an I and Q latch. However, Abraham further discloses that the correlator used is described in U.S. application number 09/963345, which is now U.S. 6,819,707 to Abraham et al.. Abraham et al. discloses and I and Q latch, element numbers 401a and 401b, for providing a register of I and Q correlation outputs to data read from a firmware control program (Column 7, lines 60-65). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Abraham et al.'s latch technique in the correlator of the modified circuit of Abraham and Eberlein et al. in order to provide a record of the outputs.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fuchs et al. (U.S. 2003/0154025) discloses a method and apparatus for synchronizing cell phone circuitry with GPS circuitry. Krasner (U.S. 2001/0028321) discloses a GPS receiver using cell phone link to estimate a frequency drift.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AH
12/20/05